



Travel for Breast Cancer Treatment in Montana, 2004-2008

Montana currently has six American College of Surgeons Commission on Cancer (CoC) accredited cancer treatment centers:

- Billings Clinic, Billings
- St. Vincent's Healthcare, Billings
- Bozeman Deaconess Cancer Center
- Benefis Hospitals, Great Falls
- St. Peter's Hospital, Helena
- St. Patrick Hospital and Health Sciences, Missoula

Between 2004 and 2008, inclusive, 68% of Montana women diagnosed with invasive breast cancer received part or all of their treatment at one of these centers. For many women, seeking treatment may involve long-distance travel. In addition to primary treatment, generally either breast-conserving excision of the cancer (often called lumpectomy) or more extensive surgery, treatment usually also includes radiation or chemotherapy, or both.

Montana-resident women who were treated in-state for invasive breast cancer between 2004 and 2008 were identified in the Montana Central Tumor Registry (N=4,173). Addresses of patient residence at time of diagnosis and of institutions providing treatment were assigned latitude and longitude coordinates.¹ Street addresses were not available for 118 women (3%) so the approximate center of the zip codes associated with their post office box addresses were used instead. Travel for treatment was mapped as a straight line between the home address and the location of the hospital where each type of treatment was received (conservative surgery, extensive surgery, chemotherapy, and radiation). These lines are shorter than the actual driving distances traveled, in some cases substantially shorter. The goal of this analysis was to examine localization of cancer treatment. Mapping to points of treatment provides a clear visual image of this localization. The lines on the maps are color-coded to show the hospital to which women traveled.

Women in the north eastern and north central areas of the state travelled long distances for major surgery, most frequently to Billings, where there are two CoC accredited cancer treatment centers (Figure 1). However, some women in the eastern and north central areas went to small hospitals closer to home in Havre, Lewistown, Glasgow, Sidney, or Miles City. On the other hand, women did not always have major surgery in the nearest hospital, and the extra distance traveled did not always correspond to choosing the nearest CoC accredited hospital. A few women bypassed one accredited hospital to seek treatment at another CoC accredited hospital. Statewide, 45% of women had major surgery in 20 other institutions besides the CoC accredited hospitals, including nine small regional hospitals. A similar pattern was observed among women who had breast-

¹ <http://www.gpsvisualizer.com/geocoder>

conserving surgery: 46% of women had surgery in 21 non-CoC-accredited hospitals including 10 small regional hospitals (Figure 2).

Figure 1. Travel for Major Surgery for Breast Cancer Treatment, Montana Women, 2004-2008

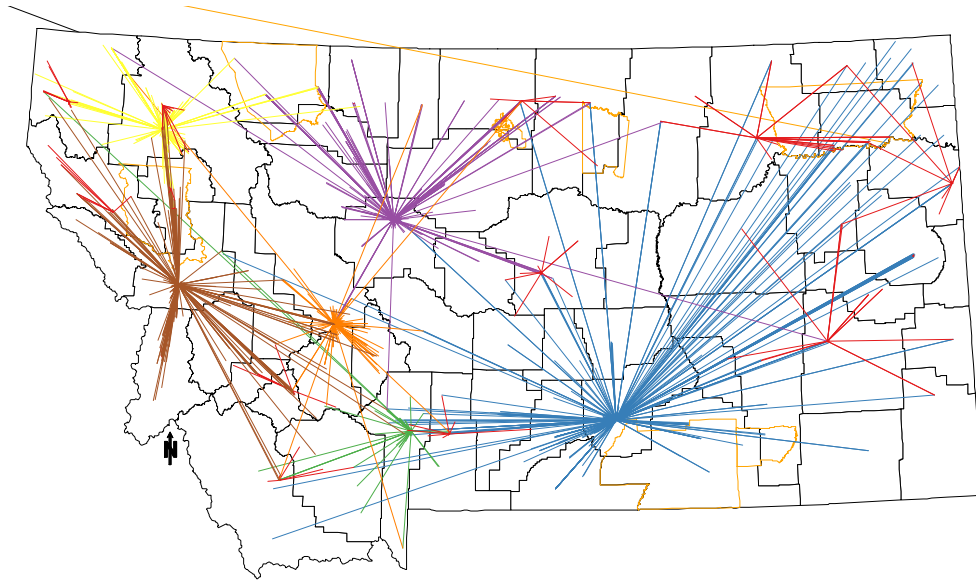
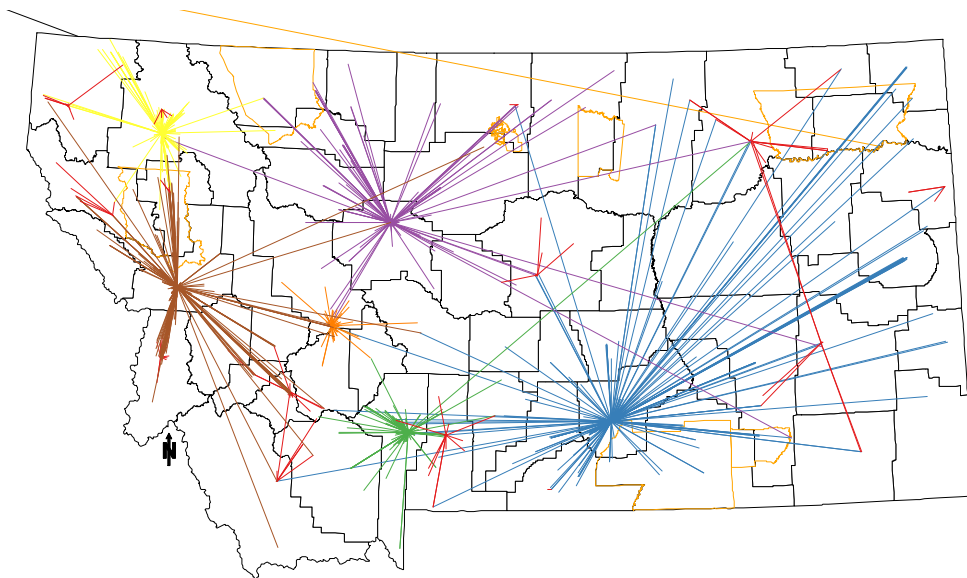


Figure 2. Travel for Breast-Conserving Surgery for Breast Cancer Treatment, Montana Women, 2004-2008



Choices for chemotherapy were more limited than those for surgery (Figure 3). Ninety percent of women received chemotherapy at one of the CoC accredited cancer treatment center. A few women traveled very substantial distances, in one case nearly the entire diagonal distance of the state, for chemotherapy. The remaining 10% of women received chemotherapy at 10 other institutions.

Figure 3. Travel for Chemotherapy for Breast Cancer Treatment, Montana Women, 2004-2008

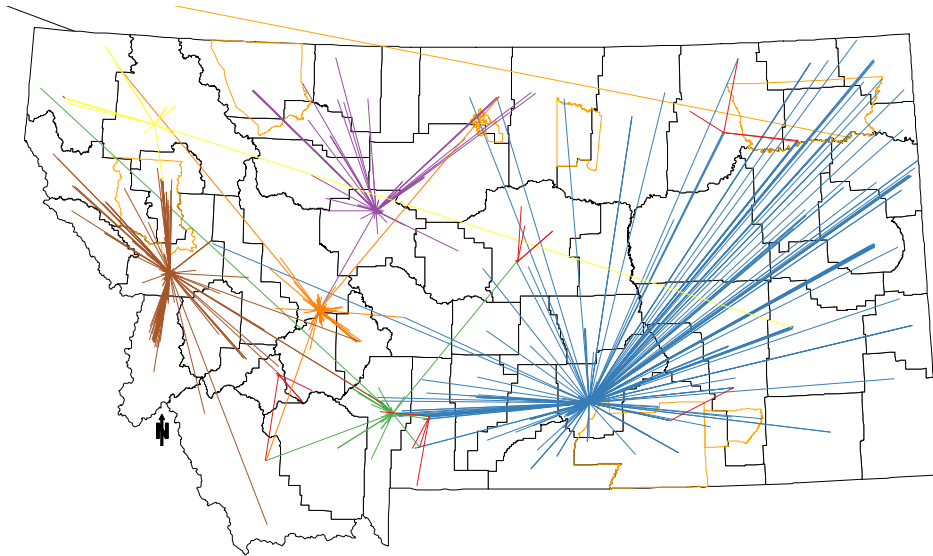
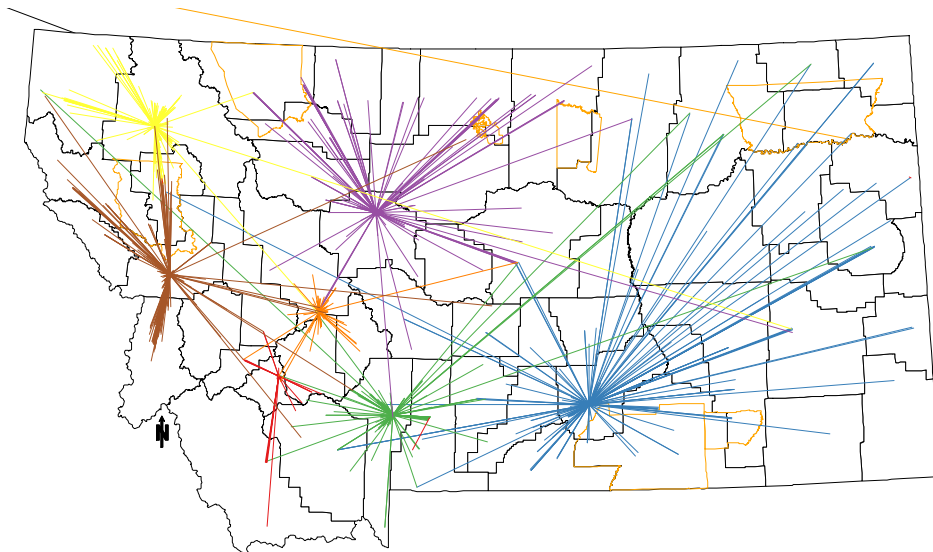


Figure 4. Travel for Radiation Therapy for Breast Cancer Treatment, Montana Women, 2004-2008



Montana had seven radiation oncology centers during the interval 2004-2008, five at a CoC accredited center and two in other hospitals (Figure 4). Eighty five percent of women received radiation therapy at one of the CoC accredited centers. The remaining 15% of women received

radiation therapy at 20 other institutions including five small regional hospitals.

Cancer patients choose treatment locations for many reasons, including closeness to their homes and ease of access. They may seek treatment from specific practitioners or at hospitals with CoC accreditation. However, there may also be considerations such as proximity to family members and other support systems. Factors influencing choice of treatment facility are rarely recorded in the Montana Central Tumor Registry. Patients residing in rural areas of Montana are faced with the need to travel to receive cancer treatment. This is difficult for the patients as well as their families. As more hospitals become CoC accredited cancer treatment centers, the need for travel may decrease somewhat but the barrier will most likely continue to exist for those patients residing in rural areas of the state.

Please visit our website at www.cancer.mt.gov

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Montana Department of Health and Human Services
1400 Broadway C-317, PO Box 202951
Helena, MT 59620-2951